

CLAIMS

1. An electric motor, comprising:

5 a plurality of motor sections, wherein the plurality of motor sections are mechanically and electrically coupleable to form a motor of a desired length, each motor section including a modular rotor section and a modular stator section.

10 2. The electric motor as recited in claim 1, wherein the plurality of motor sections includes:

a first motor section having a first rotor section and a first stator section;
and

15 a second motor section having a second rotor section coupleable to the first rotor section and a second stator section electrically coupleable to the first stator section, wherein electricity flowing through the first and second stator sections produces a magnetic
20 field to impart rotative motion in the rotor.

3. The electric motor as recited in claim 1, wherein the plurality of motor sections are fluidically coupleable to allow fluid to pass between the plurality of motor sections.

5 4. The electric motor as recited in claim 2, wherein the first motor section and the second motor section are fluidically coupleable to allow fluid to pass between the first and second motor sections.

10 5. The electric motor as recited in claim 2, wherein the second motor section is fluidically coupleable to an external device.

6. The electric motor as recited in claim 2, further comprising a seal disposed between the first motor section end and the second motor section.

15 7. The electric motor as recited in claim 1, wherein at least one modular stator section has a plurality of conductors terminating at a plurality of corresponding protrusions.

8. The electric motor as recited in claim 7, wherein at least one other modular stator section includes a plurality of conductive elements configured for engagement with
20 the plurality of corresponding protrusions when the plurality of motor sections are mechanically coupled.

9. The electric motor as recited in claim 7 wherein the plurality of conductive elements each include a hollow receptacle configured to receive a corresponding protrusion.

5 10. The electric motor as recited in claim 2, further comprising a separate coupler disposed between the first and second motor sections to provide a mechanical and electrical coupling.

10 11. The electric motor as recited in claim 1, wherein at least one of the plurality of motor sections includes an outer housing having a threaded collar designed to engage an outer housing of the next sequential motor section.

12. A submersible pumping system, comprising:

a submersible electric motor, having a plurality of motor sections,
wherein the plurality of motor sections are mechanically
and electrically coupleable to form a motor of a desired
length, each motor section including a modular rotor
section coupleable to a next adjacent modular rotor section
of a next adjacent motor section to form a rotor; and

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a submersible pump drivingly coupled to the rotor of the
submersible electric motor.

5 13. The submersible electric motor as recited in claim 12, wherein the
plurality of motor sections includes:

a first motor section having a first rotor section and a first stator section;
and

10 a second motor section having a second rotor section coupleable to the
first rotor section and a second stator section electrically
coupleable to the first stator section, wherein electricity flowing
through the first and second stator sections produces a magnetic
field to impart rotative motion in the rotor.

15 14. The system as recited in claim 12, further comprising a motor protector,
wherein the plurality of motor sections are fluidically coupleable to allow fluid to pass
between the first motor section and the motor protector.

20 15. A method for assembling a rotary electric motor, comprising:

manufacturing a plurality of motor sections, each having a modular stator
section and a modular rotor

determining a desired motor horsepower for a given application; and

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coupling a predetermined number of the plurality of motor sections to
obtain the desired motor horsepower.

16. The method as recited in claim 15, further comprising forming a plurality
10 of longitudinal slots through each modular stator and disposing an electrical conductor
through each longitudinal slot.

17. The method as recited in claim 16, further comprising forming a connector
on each rotor section to permit engagement with a next sequential rotor section.

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18. The method as recited in claim 16, further comprising each electrical
conductor having a terminal plug connector for engagement with a corresponding
electrical conductor of a next sequential modular stator section.

19. The method as recited in claim 18, wherein forming includes disposing
20 each conductive element in a polymeric insulating material.

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